

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Accompanying Divisional Application under 37 CFR 1.53:

Prior Application: M. ISHIBASHI et al
Serial No. 09/090,942
Filed: June 5, 1998

Group Art Unit: 2851
Examiner: P. Kim
For: ELECTRON EXPOSURE APPARATUS

PRELIMINARY AMENDMENT

Commissioner of Patents
Washington, D.C. 20231

January 18, 2002

Sir:

Prior to examination, please amend the above application
as follows.

IN THE SPECIFICATION

Page 1, before the first line, add the paragraph:

This is a continuation application of US Serial No.
09/090,942, filed on June 5, 1998.

IN THE CLAIMS

Cancel claims 1-23 without prejudice or disclaimer and
add new claims 24-28 as set forth below.

24. (New) A method of performing lithography on a
substrate using a resist film,

said method comprising the following steps:

exposing said resist film with electrons from a tip by
supplying a first bias voltage between said tip and said

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substrate for portions of said resist film in which latent images are formed, and

irradiating said resist film with electrons from said tip by supplying a second bias voltage between said tip and said substrate for portions of said resist film in which latent images are not formed,

wherein said first bias voltage is larger than said second bias voltage.

25. (New) The method of claim 24, wherein said tip contacts with said resist film during said exposing step and during said irradiating step.

26. (New) The method of claim 25, wherein said tip contacts with said resist film by a Coulomb force supplied from either of said first or second bias voltage between said tip and said substrate.

27. (New) The method of claim 24, wherein said second bias voltage is supplied so as not to form said latent images in said resist film.

28. (New) A fabrication apparatus, comprising,
an electrically conductive tip;
a first holder, which is used as a spring, for holding said tip;

a second holder for holding a substrate having a resist layer on a surface thereof;

a moving mechanism for said second holder; and

a device for supplying exposure current from said tip to said resist layer by supplying a voltage between said second holder and said tip, wherein

said first holder is deformed by a Coulomb force produced by said voltage, and

said substrate is relatively moved with said tip along an X-Y surface of said substrate while holding said tip in contact with said resist layer,

said device exposes said resist layer with electrons from said tip by supplying a first bias voltage between said tip and said substrate for portions of said resist layer in which latent images are formed, and irradiates said resist layer with electrons from said tip by supplying a second bias voltage between said tip and said substrate for portions of said resist layer in which latent images are not formed, and

where said first bias voltage is larger than said second bias voltage.

REMARKS

Claims 24-28 are now pending.

Respectfully submitted,



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